William Osler Health System

COVID-19 Preparedness Process Flow Diagrams

Obstetrics

May 8, 2020

- Triage
- Management of Labour
- OBS/Anaesthesia/OR
- Post Partum Care
- Antepartum Care
- Women's Clinics

COVID-19

Triage of Pregnant Patient V.7

May 8, 2020

Patients **less than 22 weeks** should be directed to ED for assessment
Patient whose primary presentation is not obstetrical but medical; patient not for OBS triage; to ED for assessment; ED pages OBS on call to see patient in ED

Pregnant >22 wks for obstetrical concerns

Pt pushed the intercom button to get into the unit. Registration clerk to **complete/confirm COVID screening** questions before patient enters the unit.

If arriving by ambulance, confirm screening questions through intercom with EMS

FAILED

The clerk will:

- Inform nurse of patient and failed screening status
- Register the patient remotely

Triage RN will:

- Perform hand hygiene and don personal protective equipment (PPE): Gown, mask, Face Shield, gloves
- Inform patient/support person to perform hand hygiene and if not already wearing, don procedure mask
- Take patient to isolation room, and **initiate Droplet/Contact precautions.**
- Triage assessment completed in isolation room
- Completes OTAS score and Maternal Early Warning System (MEWS). **If OTAS 1 or 2 or has severe respiratory symptoms consider direct admit and notify appropriate HCP.**
- Notify appropriate OB team/ROTA/MW/Anesthesia, neonatal team of status, and/or IPAC as needed
- If patient meets MEWS, MRP to consult with critical care. If medically complex but not critical, then OB to consult General Internal Medicine (GIM).
- Swab patient if criteria met. MRP to fill in testing requisition for the Ministry. Swab to be sent to the Lab with requisition via porter (do not tube).

PASSED

Routine triage care

Admission

- **If in labour,** follow flow map of "Management of labour"
- If unwell, continue to assess MEWS
- If antepartum admission required **at BCH** admit to rm 110, 113 or 115. **At EGH** admit to rm 80, or 81

On discharge undelivered, inform pt to:

- Follow up with OB Care Provider by phone or by virtual care to define care plan
- Continue Home isolation as directed by Public Health and may return to hospital if symptoms worsen

Maternal Early Warning (MEWS) Criteria:

- ☐ Systolic BP <90 or >160 mm of hg
- ☐ Diastolic BP >100 mm of Hg
- ☐ Heart rate <50 or >120/min
- ☐ Respiratory rate <10 or >30/min
- ☐ Oxygen saturation in room air of <94
- ☐ Oliguria defined as urine output <35 ml/hr for >2 hours
- ☐ Maternal confusion, agitation, unresponsiveness
- ☐ Known patient with preeclampsia reporting a non-remitting headache or shortness of breath

If any warning signs notify MRP immediately to consult GIM and/or intensivist

Swabbing Criteria for COVID

Mild symptoms of Upper Respiratory Tract Infection/Influenza like Illness **and ANY** of the following:

- Fever > or equal to 37.8 degrees,
- Underlying immunocompromised patients (e.g. Chemotherapy, HIV/AIDS, Dialysis), or age >60,
- Referred by public health due to contact with a confirmed or probable case of COVID-19, or health care/frontline worker in any Acute/Long Term/Primary Care/Police/Firefighter

Principles

- A patient under investigation (PUI)/Suspect COVID or COVID positive status in pregnancy alone is **NOT** a reason for admission.
- Essential staff/physician only should enter patient's room
- Only 1 support person per pt. Support person must remain in the patient's room at all times. Support person to wear a face mask when leaving the room for transfer.

1. BC Centre for Disease Control. (2020). Algorithm Pregnant Women COVID19+ and PUI. ; **2.** Ontario Health Toronto. (2020). Pregnant women and neonates with Suspected or Confirmed COVID19.

COVID-19

Management of Labour V.6
May 8, 2020

Immediately upon admission

- ❑ Ensure droplet/contact precautions sign is posted outside isolation or private room (if no isolation room available)
- ❑ Support person is not permitted to have in and out privileges
- ❑ Ensure patient and support person don mask and have a clear understanding of the plan and visiting policy
- ❑ Ensure droplet/contact PPE is accessible outside room
- ❑ Ensure emergency procedure COVID Cart is accessible **(emergencies only)**

If a patient develops temperature (>37.8°)

- *Consider the guidelines of giving Bolus 500mL of fluid, and retake temperature in 30 minutes. Guideline says not to give acetaminophen within that 30 minute window until temp is repeated.*
- *If second temperature is >37.8° or patient develops any other symptoms - **patient is now considered PUI***

CONFIRMED or SUSPECTED

Admission for **labour**

Transferring the patient

- Clear halls of people/equipment, open doors, and take fastest/most direct route
- Patient/support person don mask when not in room
- Ensure isolation precautions are flagged in teletracking

Pearls

- Labour consults may be required if maternal status changes
- IPAC is available for questions
- **NO evidence 2nd stage generates a**erosolization therefore droplet/contact PPE is current best practice
- A PUI /COVID 19+ in pregnancy alone is **NOT** a reason for admission or an indication for c/s
- The evidence shows low risk of vertical transmission and low risk aerosol exposure from resuscitation at birth which should inform your PCRA

Labour

Maternal Early Warning Signs (MEWS)

- ❑ Systolic BP <90 or >160 mm of hg
- ❑ Diastolic BP >100 mm of Hg
- ❑ Heart rate <50 or >120/min
- ❑ Respiratory rate <10 or >30/min
- ❑ Oxygen saturation in room air of <94
- ❑ Oliguria defined as urine output <35 ml/hr for >2 hours
- ❑ Maternal confusion, agitation, unresponsiveness
- ❑ Known preeclampsia reporting a non-remitting headache or shortness of breath

If any warning signs notify MRP immediately to consult General Internal Medicine (GIM) and/or Critical Care Intensivist

- Patient and support person to wear mask through out L&D stages
- Droplet/ contact PPE for all staff/physicians
- Encourage/Recommend early epidural
- Continuous EFM
- Ongoing hourly Respiratory/ Maternal Early Warning Signs (MEWS) assessments
- Monitor O2 Sats
- Consider: O2 to keep oxygen above 95%, antipyretic therapy, VTE prophylaxis

Active Second Stage

- Delayed cord clamping **is supported**
- Skin to skin is encouraged once mom washes chest & hands, and dons mask

Emergency

Protected Code OB/Code Pink/Maternal Code Blue

- Refer to PPE infographic and complete point of care risk assessment (PCRA)
- Safety officer/ runner delegated
- PPE on emergency COVID cart accessible
- **DO NOT** bring code pink cart in room
- Use phone or baby monitor to document and request needed supplies

Paging Attendance at Delivery Team (only if required**)**

- Notify locating to add COVID19 to neonatal team page
- Upon call back notify of probable/suspect COVID19
- Assign safety officer/runner & minimize staff required in room

Safety Officer/ Runner

- Assists and ensures proper don/doffing of PPE
- Remain outside room (wears droplet/contact PPE)
- Communicates with the team
- Ensure only one person leaves the room at a time to avoid contamination while doffing
- Must know where supplies are located

1. BC Centre for Disease Control. (2020). Algorithm Pregnant Women COVID19+ and PUI. ; **2**. Ontario Health Toronto. (2020). Pregnant women and neonates with Suspected or Confirmed COVID19.

COVID-19
OBS ANESTHESIA

Version 1.9 April 1, 2020 written by Dr. Lilia Fung
modified from Dr. Andy Clark, NHS Ayrshire and Arran

Immediately upon admission

- [ ] ENGAGE/page notification to OBS, ANES, PEDS, team leader "COVID parturient, room XXX"
- [ ] Permanent OR ready for cat 1 GA C/S (gas covered and drug cart removed and replaced with a mayo stand), +HEPA filter.
- [ ] Prepare you own regional kit, GA drug kit, Airway boxes and PPE "grab bag"

General Principals

- Avoid general anesthesia (GA) unless absolutely necessary.
- Assess the patient on arrival to the birthing unit, consent for all eventualities
- Strongly recommend an early epidural in attempt to avoid category 1 GA C/S
- There is no C/I to neuraxial anesthesia in the presence of COVID

Transferring the patient

- Delegate someone to clear the halls of all people and equipment, open doors, and take the fastest/most direct route possible
- Patient should wear face mask or oxygen mask at all times

DO NOT OPEN any of the doors to the OR <u>during</u> or <u>20 minutes</u> following an AGMP (intubation/extubation)

However, in the event of an emergency:

- Manually open the main OR door only
- Clear the OR corridor of all people; wheel any equipment behind the walls
- Airborne PPE for all staff exposed to the opened door.

After 20 mins, any door may be opened but always check in with the safety officer first.

CONFIRMED or SUSPECTED

caesarian section

REGIONAL

anything not CODE OB

- Droplet PPE for all staff

GA CONVERSION depending on urgency, everyone go outside doff and re-don airborne PPE. If urgent, go to GA conversion (unanticipated)

"CODE OB"

- Droplet PPE for all staff
- If no epidural, consider an RSI spinal[1]

GA

anything not CODE OB

- Airborne (N95) PPE for <u>ALL staff</u> in the OR.
- Proceed with surgery in usual fashion

"CODE OB"

- Airborne PPE (N95) for <u>ALL staff</u> in the OR.
- OB scrubbed and ready for incision immediately post intubation

GA CONVERSION (anticipated)
Attending anesthesiologist will risk assess need for airborne PPE (for all staff) from the outset based on clinical/pt considerations.

GA CONVERSION (unanticipated)
Call for help. Ask runner to grab prepared GA drugs and airway box(es) and PPE "grab bag". Start pre-O2 as the rest of the team dons airway PPE. If surgical staff members are already scrubbed, have a separate team member, in droplet PPE, place N95 and face shields on OR staff.

labour analgesia

Labour Epidural

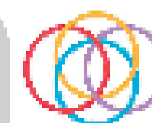
- Droplet/Contact PPE required
- Mild thrombocytopenia is common (but platelets rarely <100)
- Select and bring in your own desired epidural tools +/- narcotics from regional cart outside the room to minimize RN leaving the room

Entonox

- theoretical risk of increased aerosolization. Hydrophobic filter MUST be used to prevent contamination of the circuit.

Pearls

- Communication in PPE is challenging, speak slow/clearly; close the communication loop.
- Highest risk of contamination is during doffing. Doff one person at a time, with a witness (safety officer).



William Osler Health System

AGMP – aerosol generating medical procedure
PPE – personal protective equipment

1. Kinsella, SM et al., Anaesthesia 65.7 (2010): 664-669.

COVID-19

Postpartum Management V.6

May 8, 2020

On admission to PP/MBU

- ❑ Place in isolation/private room (if no isolation room available) in PP/MBU with droplet/contact sign on door
- ❑ Support person to stay in room and is not permitted to have in and out privileges (food will be supplied to support person)
- ❑ Ensure droplet/contact PPE is accessible outside room
- ❑ Ensure emergency procedure COVID Cart accessible **(emergencies only)**

IF patient develops temperature (>37.8°) follow guidelines on labour flow sheet to determine need to change to PUI status.

CONFIRMED or SUSPECTED

Unwell Mother

Well Mother

Newborn will go to NICU

Well Newborn

Unwell Newborn will go to NICU

Maternal Early Warning Signs (MEWS)

- ❑ Systolic BP <90 or >160 mm of hg
- ❑ Diastolic BP >100 mm of Hg
- ❑ Heart rate <50 or >120/min
- ❑ Respiratory rate <10 or >30/min
- ❑ Oxygen saturation in room air of <94
- ❑ Oliguria defined as urine output <35 ml/hr for >2 hours
- ❑ Maternal confusion, agitation, unresponsiveness
- ❑ Known preeclampsia reporting a non-remitting headache or shortness of breath

If any warning signs notify MRP immediately to consult General Internal Medicine (GIM) and/or Critical Care Intensivist

- Droplet/ contact PPE for all staff/physicians
- Ongoing Respiratory/ Maternal Early Warning Sign (MEWS) assessments for signs of deterioration
- Consider: antipyretic therapy and VTE prophylaxis
- Signs of deterioration may require admittance to critical care
- Consult with Medicine, infectious diseases and/or critical care intensivist, and Infectious Diseases (ID) and IPAC as needed
- Monitor O2 Sats
- Encourage fluids

Pearls

- Utilize patient educational resources on Oslernet
- Seek assistance from leadership /access and flow as needed
- Consider early discharge for mother if newborn is in NICU

Room with Mother

- All staff/physician require Droplet/Contact PPE for dyad
- Mother/Support person must perform proper hand/body hygiene and wear mask before caring for newborn
- Breastfeeding is supported with appropriate hygiene and PPE
- **Newborn vital signs should be monitored every 4 hours**
- Consider newborn bath soon after delivery
- Newborn in isolette/bassinette 6 ft from mothers face
- Swab newborn **if** mother COVID19 Confirmed ONLY

DISCHARGE

- Postnatal follow up with MRP in 48-72 hrs (Parent to notify clinic of COVID19 status)
- Hearing Screening deferred until swabs resulted
- Teach parents self-isolation basics (Oslernet)
- Teach parents signs and symptoms including difficulty breathing, fever, low temperature, skin colour, vomiting, diarrhea, and poor feeding
- For COVID19 questions call public health Corona Help Line: 1-866-797-0000
- **A COVID19 Positive** mother: if newborn needs repeat MBR to be done in ED
- **COVID19 suspect** mother: if newborn needs MBR book in UPAC

1. Referral paper form flagged
2. In Meditech enter:

CATEGORY: PR (Patient registration)

PROCEDURE: ICMED (IC Med alert change request)

ADD: the following med alert: COVID-Sus (COVID Suspect)

Signs/Symptoms for Newborn

- Fever or low temperature (<36.5 or >37.5)
- Signs of Respiratory distress: respiratory rate >60, nasal flaring, chest retractions, grunting, change in skin colour (blue/gray), cough, vomiting, diarrhea, poor feeding

If any signs and symptoms present notify newborn MRP

1. BC Centre for Disease Control. (2020). Algorithm Pregnant Women COVID19+ and PUI. ; **2**. Ontario Health Toronto. (2020). Pregnant women and neonates with Suspected or Confirmed COVID19.

COVID-19

Antepartum Management V.3

May 8, 2020

Immediately upon admission

- ❑ Ensure droplet/contact precautions sign is posted outside isolation or private room
- ❑ Support person is not permitted to have in and out privileges
- ❑ Ensure patient and support person don mask and have a clear understanding of the plan and visiting policy
- ❑ Ensure droplet/contact PPE is accessible outside room
- ❑ Ensure emergency procedure COVID Cart is accessible **(for use in emergencies only)**

Transferring the patient

- Clear halls of people/equipment, open doors, and take fastest/most direct route
- Patient/support person don mask when accompanying patient on transfer
- Ensure isolation precautions are flagged in teletracking
- Confirm isolation room is ready prior to transfer

CONFIRMED or SUSPECTED

Admission for **Antepartum**

Pearls

- During antepartum management, consults may be required if the maternal status changes
- IPAC is available for questions
- A well COVID19 suspected or confirmed mother does not require antepartum admission unless obstetrically indicated – consider, where indicated, discharge home with outpatient management virtually or in clinic

Maternal Early Warning Signs (MEWS)

- ❑ Systolic BP <90 or >160 mm of hg
- ❑ Diastolic BP >100 mm of Hg
- ❑ Heart rate <50 or >120/min
- ❑ Respiratory rate <10 or >30/min
- ❑ Oxygen saturation in room air of <94
- ❑ Oliguria defined as urine output <35 ml/hr for >2 hours
- ❑ Maternal confusion, agitation, unresponsiveness
- ❑ Known preeclampsia reporting a non-remitting headache or shortness of breath

If any warning signs notify MRP immediately to consult General Internal Medicine (GIM) and/or Critical Care Intensivist

IF patient develops temperature (>37.8°) follow guidelines on labour flow sheet to determine need to change to PUI status.

Management

- Droplet/ contact PPE for all staff/physicians
- Ongoing Respiratory/ Maternal Early Warning Signs (MEWS) assessments
- Monitor O2 Sats
- Consider: O2 to keep oxygen above 95%, antipyretic therapy, VTE prophylaxis, use of empiric antenatal steroids (based on gestational age)
- Consider: Monitoring of fetal growth & wellbeing
- Consult with Medicine, and/or Critical Care Intensivist, Infectious Diseases (ID) and IPAC as needed

Emergency

Protected Code OB/Code Pink/Maternal Code Blue

- Refer to PPE infographic and complete point of care risk assessment (PCRA)
- Safety officer/ runner delegated
- PPE on emergency COVID cart accessible
- **DO NOT** bring code pink cart in room
- Use phone or baby monitor to document and request needed supplies

Patient requires transfer to L&D/BU

- Follow transferring the patient guideline (above)
- Ensure transfer directly into an L&D/BU isolation or private room (if isolation room unavailable)

Safety Officer/ Runner

- Assists and ensures proper don/doffing of PPE
- Remain outside room (wears droplet/contact PPE)
- Communicates with the team
- Ensure only one person leaves the room at a time to avoid contamination while doffing
- Must know where supplies are located

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COVID-19

Women's Clinics

EPC/NST Clinics (EGH)

MCC/MBC/EPC Clinics (BCH) V.4

March 28, 2020

Booking of Appoint Process

- Indicate during booking that patient is a patient under investigation (PUI)/Suspect COVID or has a COVID positive status.
- **Inform patient of process:**
  - will receive a phone call day before booking
  - will be screened at entrance and again upon arrival
  - will be instructed to wear a mask during visit
  - Will be coming alone to appointment.

Day Before Appt Screening Process

- ❑ Screen all patients by phone call day before booked appointment-using screening tool
- ❑ If failed screening consult with MRP to confirm essential booking (or if virtual option is possible)

Day of Appt Screening Process

- ❑ If patient fails screening at entrance, security escorts or calls clinic to bring patient upstairs
- ❑ Complete/confirm COVID screening for all patients upon arrival to clinic – using screening tool.

CONFIRMED or **SUSPECTED**

Yes

- Nurse to Perform hand hygiene and don personal protective equipment (PPE): Gown, mask, Face Shield, gloves
- Inform patient to perform hand hygiene and if not already wearing, don procedure mask
- Escort patient to the dedicated COVID room or a private room
- Close the door and place droplet/contact sign on the door
- Ensure droplet/contact PPE is available
- During clinic visit, all staff/physicians use Droplet/Contact PPE as required
- In consultation with IPAC, swab patient if criteria met. MRP to fill in testing requisition for the Ministry
- Swab to be sent to the Lab with requisition via porter (do not tube)
- Patient escorted out to front door after visit by staff wearing PPE.

NO

Proceed as usual with clinic appointment.

Swabbing Criteria for COVID

Mild symptoms of Upper Respiratory Tract Infection/Influenza like Illness **and ANY** of the following:

- Fever > or equal to 37.8 degrees,
- Underlying immunocompromised patients (e.g. Chemotherapy, HIV/AIDS, Dialysis), or age >60,
- Referred by public health due to contact with a confirmed or probable case of COVID-19, or health care/frontline worker in any Acute/Long Term/Primary Care/Police/Firefighter

Pearls

- Communication in PPE is challenging, speak slow/clearly; close the communication loop.
- Highest risk of contamination is during doffing. Doff one person at a time, with a witness.
- When escorting **COVID-19 suspect or positive patient**
  - Use the most direct route to and from clinic
  - Patient to be wearing procedure mask at all times

Dedicated Clinic Rooms for COVID Suspect or Positive

- BCH:
  - S.3.285
- EGH
  - 4702.1; 4704.1; 4706.1; 4708.1

1. BC Centre for Disease Control. (2020). Algorithm Pregnant Women COVID19+ and PUI. ; **2**. Ontario Health Toronto. (2020). Pregnant women and neonates with Suspected or Confirmed COVID19.